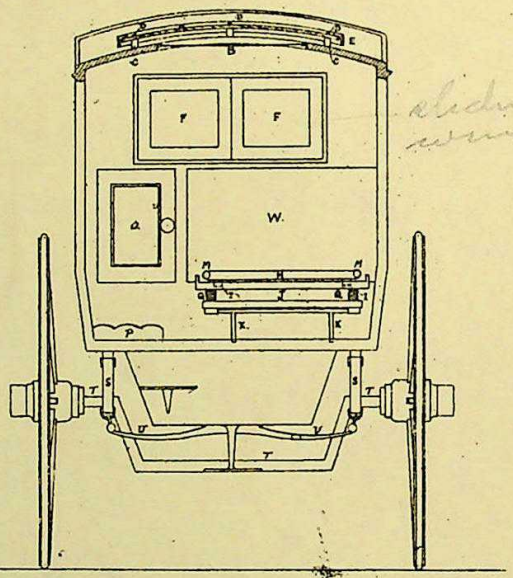
A.D. 1883. May 19. N° 2500.
WESTHORP'S Specification.

A – glass roof
B – copstans
C rubber

(1 SHEET)

FIG.1.



sliding windows

FIG.2.

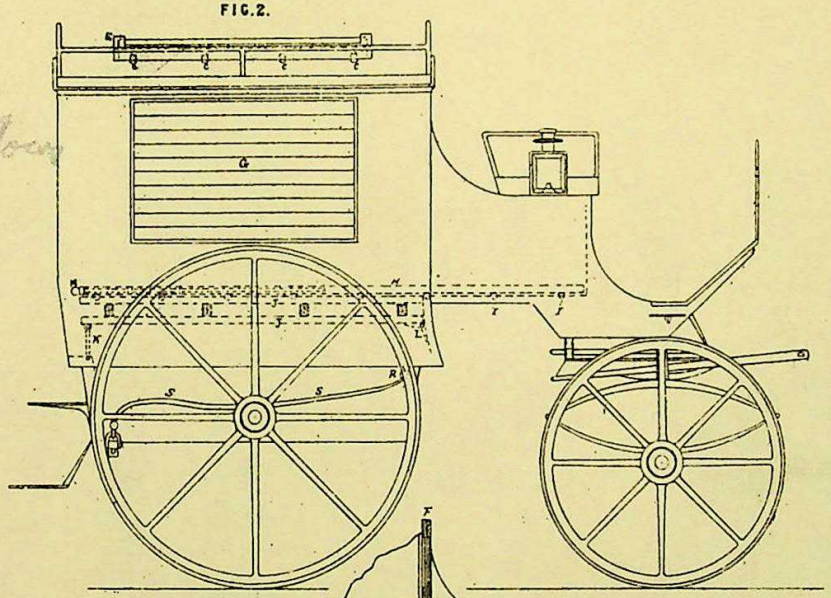
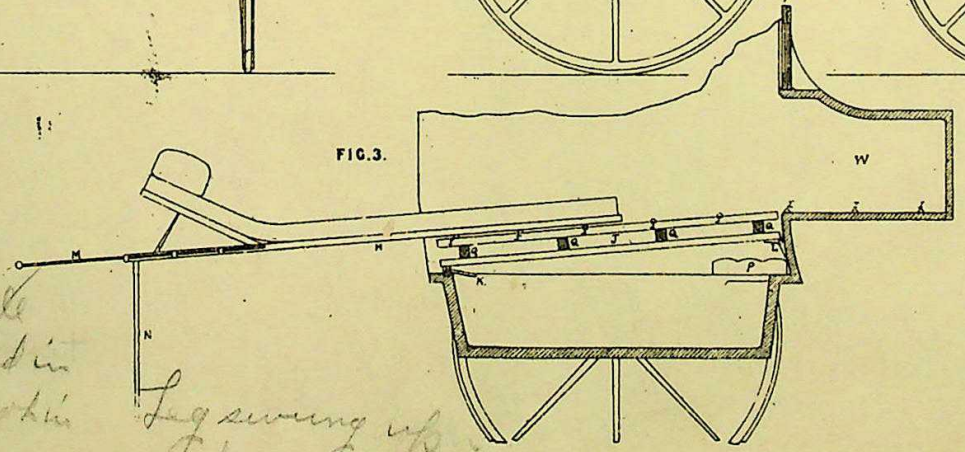


FIG.3.



Handle pivoted in order not in use

Leg swung up when not in use

2500
1883

British

A.D. 1883, 19*th* MAY. N° 2500.

Construction of Ambulance Carriages, &c.

LETTERS PATENT to Richard Alexander Westhorp of Charing Cross in the County of Middlesex Clerk in Holy Orders for an Invention of "IMPROVEMENTS IN THE CONSTRUCTION OF AMBULANCE CARRIAGES AND WAGGONS FOR CIVIL AND MILITARY PURPOSES"

PROVISIONAL SPECIFICATION left by the said Richard Alexander Westhorp at the Office of the Commissioners of Patents on the 19th May 1883.

RICHARD ALEXANDER WESTTHORP [of Charing Cross in the County of Middlesex Clerk in Holy Orders] "IMPROVEMENTS IN THE CONSTRUCTION OF AMBULANCE CARRIAGES AND WAGGONS FOR CIVIL AND MILITARY PURPOSES"

My invention relates to the improved construction of ambulance carriages and has for its object, improved means of lighting; of ventilation; of introducing the patients into the carriages; and rendering the patients comparatively free from noise, jolting and other disturbing influences

I prefer to construct my ambulance carriages so as to give them the appearance of private waggonettes with such alterations in form as are necessitated in order to embody my improvements

My carriages may be constructed to contain one or more patients, when they are to contain two patients I place one above the other on one side of the carriage, the other side affording space for an attendant

My improved means of lighting consists of covering an opening extending over the whole or a considerable portion of the roof with glass raised above the s[d] roof by means of India rubber buttons or other suitable means and I provide a blind or other means for darkening the interior of the carriage.

My improved means of ventilation consist chiefly of the adoption of open louvres or Venetian blinds in the sides of the carriages and of making provision for the circulation of the air underneath the glass cover by the means hereinbefore described

I introduce the patient into the carriage by placing him upon a stretcher which is then raised to the doorway in the rear of the carriage and is slid upon rollers into its position along the stretcher frame, which stretcher frame being hinged to

the farther end of the carriage is readily lowered to receive the stretcher and is forthwith raised and secured in a level position by means of a leg or legs hinged underneath the stretcher frame. When the frame is in its place the feet of the patient may extend under the drivers seat.

The means I adopt to render the patient comparatively free from jolting and shaking, from noise and disturbing influences from without consist chiefly of the employment of springs of peculiar construction to which the axles of the carriage wheels are attached, the construction of which springs is hereinafter described; of supporting the stretcher upon a system of spiral springs contained in each side of the stretcher frame so arranged as to receive the entire weight of the patient; of the adoption of India rubber tires to the wheels of the carriage; and of the method of lighting hereinbefore described.

I construct the springs that take the weight of the carriage as follows;—I secure underneath the front or that end of the carriage next the drivers seat the two extremities of two flat springs parallel to each other and to the centre of each an end of the axle is attached. These springs both extend nearly the length of the carriage one on either side and terminate in a downwards turn or volute attached respectively to the extremities of a flat spring which thus connects them at right angles, and is itself bent upwards and attached in the middle to the centre of the back of the carriage. I interpose India rubber between the connections of the s^{d} flat parallel springs with the s^{d} cross spring.

SPECIFICATION in pursuance of the conditions of the Letters Patent and of an Order of the Lord Chancellor filed by the said Richard Alexander Westhorp in the Great Seal Patent Office on the 18th December 1883.

RICHARD ALEXANDER WESTHORP of Charing Cross in the County of Middlesex Clerk in Holy Orders "IMPROVEMENTS IN THE CONSTRUCTION OF AMBULANCE CARRIAGES AND WAGGONS FOR CIVIL AND MILITARY PURPOSES"

My invention relates to the improved construction of Ambulance Carriages and Waggons, and has for its object improved means of lighting; of ventilation; of introducing the patients into the carriages; of rendering the patients comparatively free from noise jolting and other disturbing influences; combined with a form of construction which gives Ambulance Carriages made in accordance with my invention the appearance of private closed Waggonettes thereby enabling them to escape inconvenient observation when passing through the streets.

My carriages may be constructed to contain one or more patients, the accompanying drawing shews a carriage constructed for one patient and an Attendant. In many cases an attendant is not required inside the carriage, and by making the carriage somewhat wider I accommodate two patients upon stretchers side by side on the same level.

Reference being had to the accompanying drawing Fig: 1 is an elevation of the back or end of the carriage, the doors which open from the centre on either side being removed to shew the interior arrangement, and a transverse section being made through the roof to shew my means for obtaining top light and ventilation. Fig: 2 is a side elevation. Fig: 3 is a longitudinal section of the carriage shewing my means for elevating the patient into the carriage.

I will now proceed to describe the various parts of my invention the same parts shewn in different views being similarly lettered. In the section of the roof Fig: 1, A is a sheet of thick glass covering an opening in the roof which is provided with a blind or curtain, B. The said glass rests upon studs or collars of Indian-rubber C, through which screws or bolts D secure the glass to the roof, or it may be secured by screwing or bolting to the roof the mount E. in which the glass is framed and the edges concealed. By these means I obtain both light and ventilation, air passing beneath the frame E. and into the carriage. Additional means of obtaining light and ventilation are provided by sliding windows F. in the front end of the carriage and by louvres windows G. Fig: 2 on each side.

Referring to the three views—H is the stretcher, which is shewn with mattress and pillow in Fig. 3 and which slides upon rollers I. J is a spring frame upon which the stretcher rests. To introduce the patient into or to remove him from the carriage, the Attendant slightly raises the end of the spring frame and pushes inwards the spring legs K, then lowers the spring frame J which being hinged to the carriage at L. falls into the position shewn in Fig. 3. He then slides the stretcher H. over the rollers I. into or out of the carriage as the case may be. Two hand rods M. one on each side can be drawn out to enable the stretcher to be more conveniently carried, and legs N. hinged to the stretcher can be opened out to enable the stretcher to rest upon the ground. The head end of the stretcher can be raised at a convenient angle to suit the patient as shewn in Fig: 3. The other end of the stretcher when in the carriage goes into the recess W. underneath the seat of the driver, the remaining space not occupied by the stretcher being utilised for a cupboard O. a seat P. being provided for the Attendant. By this arrangement I am enabled to give my Ambulance Carriages the appearance of Waggonettes.

Westhorp's Improvements in the Construction of Ambulance Carriages, &c.

Noise, jolting and other like disturbing influences are minimised by the employment of Indian-rubber tyres in the wheels of the carriage; by the spiral springs Q. which are interposed between the base of the spring frame J. and the upper part which takes the chief weight of the stretcher and the patient and by the arrangement of the springs attached to the axle of the large wheels, and which I will now describe;

On each side of the carriage is secured at R. a flat spring S. to about the centre of which the axle T. is attached. The springs S. extend nearly the length of the carriage and are connected to the extremities of a flat spring U. which is fixed in the centre underneath the back end of the carriage and at right angles to the said springs S. Indian-rubber is interposed between the connections of the springs S. with the carriage at R. and the spring U.

Having now described my invention and the means by which I carry it out, I claim as my invention:—

I. The construction of Ambulance carriages substantially as hereinbefore described and as illustrated in the accompanying drawing.

II. The improved means for introducing patients into the carriages applied to or in combination with Ambulance carriages or Waggonettes constructed with a recess W. for the purpose substantially as hereinbefore set forth.

In Witness whereof I the said Richard Alexander Westhorp have hereunto set my hand and seal this eighteenth day of December in the year of our Lord 1883.

RICHARD A WESTHORP (L.S.)

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For Her Majesty's Stationery Office.
1883.